

REMARKSI. Introduction

In response to the Office Action dated February 17, 2006, claims 1-3 have been amended, and claims 4-7 have been added. Claims 1-7 remain in the application. Re-examination and re-consideration of the application, as amended, is requested.

II. Prior Art Rejections

On page (2) of the Office Action, claims 1-3 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kang et al., U.S. Patent No. 6,266,068 (Kang).

Specifically, the independent claims were rejected as follows:

With respect to claims 1-3, Kang et al. disclose a multi-layered image-based rendering system 100 in Fig. 1 (column 3, lines 25-26) implemented on a processor-based computer system capable of rendering graphical images on a display device (column 3, lines 28-29). A user interface 130 in Fig. 1 (column 3, line 35) and a set of arrow keys 520 in Fig. 5 (column 11, line 23) are included for user input. The system includes a collection of layers 102 in Fig. 1 (column 3, line 30) which include at least three types of layers: a collection of still images or "snapshots" of a static scene, a matted video sequence of frames corresponding to an object or scene in motion, and a conventional 3-D graphics model (column 3, lines 44-47). These layers are referred to as the image-based layer 204, video-based layer 208, and 3-D model-based layer 212 in Fig. 2, respectively. The image-based layer can be defined as a first layer. Since a description of the pose, position, and intrinsic camera parameters for a viewpoint is provided for each still image in the image layer (column 5, lines 9-11), it would have been obvious to include respective co-ordinates within a three-dimensional volume configured with a reference co-ordinate system because it is well known to use a co-ordinate system to describe the position of an object (the image layer). The system can combine layers of a single model type or mixed model types (column 4, lines 36-37). Therefore, any of the aforementioned layers can be defined as second image data and positioned relative to the first image data (defined as the first layer) or be generated as a reference pose layer. It would have been obvious to include and configure a second reference co-ordinate system for the reference pose layer to describe its position relative to the first image layer. The second image data can be defined as a second layer, just as the first data is defined as the first layer, and retain its respective co-ordinates within the second reference co-ordinate system.

Applicant traverses the above rejections for one or more of the following reasons:

- (1) Kang fails to teach, disclose, or suggest the use of a reference pose layer as a guide in positioning second image data relative to first image data; and
- (2) Kang fails to teach, disclose, or suggest placing second image data based on a reference pose layer.

Independent claims 1, 2, and 3 are generally directed to image data in a computer system. More specifically, the invention is directed towards assisting a user that has limited experience in a

3D compositing environment with the placement of layers/objects/image data. In this regard, the claims first provide for defining first image data as a first layer having coordinates in a 3D volume having a reference coordinate system. Second image data is then positioned relative to the first image data by generating a reference pose layer as a guide. The coordinates of the reference pose layer are configured as a second reference coordinate system within the 3D volume. The reference pose layer is positioned relative to the first layer for use as a guide for positioning the second image data. Thereafter, upon selecting the second image data, the second image data is defined as a second layer having coordinates within the 3D volume based on the reference coordinate system and the reference pose layer. Thus, the reference pose layer is used to assist the user in placing second image data with respect to first image data. Such assistance may be necessary or useful in a 3D environment for users that have primary experience in a 2D compositing environment and not a 3D environment.

The dependent claims add further limitations with respect to the apparatus claims relating to the nature of the reference pose layer.

The Office Action rejected the independent claims based on Kang. Kang describes a multi-layer image based rendering system. However, Kang completely and totally lacks the use of a reference pose layer that assists a user in placing image data. In this regard, the generation of such a reference pose layer is wholly and completely lacking. Instead, Kang merely describes a "pose" of a viewpoint for each still image in an image layer. However, the concept and ability to use a layer as a guide in placing image data is not even remotely hinted at in Kang.

The Office Action asserts that Kang describes the combination of layers and therefore, any of the layers can be defined as second image data and positioned relative to first image data or generated as a reference pose layer. The action continues and asserts that it would have been obvious to include and configure a second reference coordinate system for the reference pose layer to describe its position relative to a first image layer. Applicants respectfully disagree and traverse such assertions. Firstly, the ability to generate the reference pose layer is not described in Kang. Secondly, even if such a second layer is generated in Kang, such a second layer is not used as a guide in placing image data as set forth in the amended claims.

In addition to the above, Applicants submit that the numerous leaps in logic set forth in the Office Action lack support in Kang. The Office Action provides for numerous conclusions and

illogical leaps that connect the assertions. In this regard, there is no foundation for the assertion that one of Kang's layers can be generated as a reference pose layer. Nor is there any foundation in Kang to include a reference coordinate system for such a generated reference pose layer. Again, the claimed reference pose layer is used as a guide to place additional second image data. No such teaching is remotely hinted at or suggested, implicitly or explicitly, in Kang.

In addition, Applicants submit that is only with the use of impermissible hindsight that one could assert that Kang renders the present invention obvious. Under MPEP §2141.01, "The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention". Only after viewing the present invention would one even contemplate the use of a reference pose layer that is used as a guide to position image data. Further, the mere generation of such a layer is not even contemplated in Kang.

The new dependent claims provide further limitations relating to the reference pose layer that are not contemplated, disclosed, taught, or suggested by Kang. For example, claim 4 provides that the reference pose layer inherits a geometry and reference coordinate system from a parent object. The concept of such parent objects is not disclosed or suggested in Kang.

Claim 5 provides that the reference pose layer is only temporary and is removed once the second image data has been positioned. Again, the use of a reference pose layer as a temporary guide that is used to place image data is not disclosed or suggested in Kang.

Dependent claim 6 provides that the reference pose layer is constrained in 2D to the XY plane of a local coordinate system of the reference pose layer. Kang completely fails to disclose such a constraint.

Lastly, new dependent claim 7 provides that the display of the reference pose layer is activated by a user via a guide tool. The use of such a guide tool to activate a reference pose layer that is used as a guide to place an object is also not even remotely hinted at in Kang.

Moreover, the various elements of Applicants' claimed invention together provide operational advantages over Kang. In addition, Applicants' invention solves problems not recognized by Kang.

Thus, Applicants submit that independent claims 1, 2, and 3 are allowable over the cited references. Further, dependent claims 4-7 are submitted to be allowable over the cited references in the same manner, because they are dependent on independent claim 1, and thus contain all the

limitations of the independent claims. In addition, dependent claims 4-7 recite additional novel elements not shown by Kang or the other cited references.

III. Conclusion

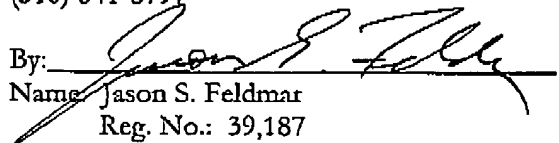
In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited. Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

Respectfully submitted,

GATES & COOPER LLP
Attorneys for Applicant(s)

Howard Hughes Center
6701 Center Drive West, Suite 1050
Los Angeles, California 90045
(310) 641-8797

Date: May 17, 2006

By: 
Name: Jason S. Feldmar
Reg. No.: 39,187

JSF/bjs